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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/520,369

06/15/2005

Murray James McEwan

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EXAMINER

WEISZ, DAVID G

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

06/23/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/520,369	Applicant(s) MCEWAN ET AL.	
	Examiner DAVID WEISZ	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. RCE filed on 06/09/09 and amendment filed 5/18/09 are acknowledged. Upon entering the amendment, the claims 1 and 4 are amended. The claims 1-6 are pending and presented for the examination.

Response to Amendment

2. Grounds for rejection were modified in view of the amendment.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. **Claims 1-6** are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of detecting molecules via SIFT MS using methoxymethyl cation or other cations such as ethyl and propyl as a chemical ionization precursor, does not reasonably provide enablement for using any alkoxyalkyl cation as the chemical ionization precursor, especially long chain alkoxyalkyls. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. See claims 1 and 4, and specification Page3/L14-Page6/L18. Freitas et al. (Int. J. Mass Spec and Ion Proc., Vol 175, 1998) (cited in IDS) discloses a method of reacting methoxymethyl cations, as a chemical ionization precursor, with a variety of species within a chemical ionization mass spectrometer (*Page108*), however there is no indication for the success of the method in terms of a long chain alkoxyalkyl cation. Therefore, it would require undue experimentation for a routineer in the art to perform the method in the scope of the claims with every alkoxyalkyl cation chemical ionization precursor.

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5. **Claims 1-6** are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of detecting molecules having sulphur and nitrogen heteroatoms, does not reasonably provide enablement for detecting an arbitrary molecule within a gas sample containing alkanes, ethane or ethyne. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. In claims 1 and 4, the specification (*Page 4/L 10-15*) discloses a method of reacting methoxymethyl cations with a variety of species, including sulfur and nitrogen containing species, within a chemical ionization mass spectrometer, however there is no indication for the success of the method in terms of any arbitrary molecule having a reactive species. Therefore, it would require undue experimentation for a routineer in the art to perform the method in the scope of the claims with an arbitrary molecule having a reactive species.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. **Claim 6** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim states that the range of reactive species are molecules that contain sulfur, nitrogen, oxygen, phosphorus or silicon heteroatoms. This is unclear, as it contradicts the statement of amended claims 1 and 4 that the ionization precursor must not react with the major components of air. For the purposes of examination, claim 6 will be interpreted to be the method wherein the range of reactive species includes molecules that contain heteroatoms of sulfur, nitrogen, oxygen, phosphorus or silicon.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. **Claims 1-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Freitas et al. (Int. J. Mass Spec and Ion Proc., Vol 175, 1998, CITED IN IDS) (Freitas).

Freitas discloses a method of detecting molecules using a methoxymethyl cation as a chemical ionization precursor in a SIFT mass spectrometer, wherein the methoxymethyl cation is known to react with sulfur containing species, but not with alkanes (*Introduction, Table 2; applicants admitted prior art, Specification page 2/L4-9*) (*claims 1 and 3*). The reference additionally discloses the carrier gas to be helium, and that a supply of methoxymethyl cations were formed via electron impact and introduced into the helium carrier (*Experimental*) (*claims 2, 4, 5 and 6*). It would have been obvious to one having ordinary skill in the art to detect a molecule containing a sulfur heteroatom in a gas sample containing alkanes because Freitas discloses that the methoxymethyl cation reacts with sulfur containing molecules but not alkanes (*Table 2*).

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Response to Arguments

12. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID WEISZ whose telephone number is (571)270-7073. The examiner can normally be reached on Monday - Thursday, 7:30 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on (571)272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

6/19/2009

/Yelena G. Gakh/
Primary Examiner, Art Unit 1797

/D. W./

Examiner, Art Unit 1797